

## CLAIMS:

1. A bed rail comprising  
a side rail and  
a clamp arranged to cooperate with the side rail to clamp a mattress to  
5 mount the side rail alongside the mattress and to unclamp the mattress, the clamp  
including a base adapted to extend under the mattress in a fixed position and means  
for controlling movement of the side rail relative to the base between a raised position  
extending higher than the base so that the side rail extends higher than a top surface of  
the mattress when the base is positioned under the mattress in the fixed position and a  
10 fold-down position extending lower than the base so that the side rail extends lower  
than the top surface of the mattress when the base is positioned under the mattress in  
the fixed position.
2. The bed rail of claim 1, wherein the movement-controlling  
means includes a leg receiver coupled to the base, a leg coupled to the side rail and  
15 arranged to be received in the leg receiver upon movement of the leg to the raised  
position and to be removed from the leg receiver upon movement of the leg to the  
fold-down position, and an articulated joint coupled to the leg and the leg receiver to  
facilitate movement of the leg between the raised and fold-down positions.
3. The bed rail of claim 3, wherein the leg receiver is formed to  
20 include a channel that receives the leg upon movement of the leg to the raised  
position, the articulated joint includes an anchor, first and second pivots, and a link  
coupled to the anchor by the first pivot and to the leg by the second pivot, the anchor  
is arranged to slide in the channel upon movement of the leg between the raised and  
fold-down positions and is arranged to engage an anchor stop included in the leg  
25 receiver when the leg assumes the fold-down position, and the link is formed to  
include an elongated slot through which the second pivot extends for movement  
therein to allow movement of the leg toward and away from the anchor upon  
movement of the leg between the raised and fold-down positions.
4. The bed rail of claim 2, wherein the articulated ankle joint  
30 includes an anchor, first and second pivot axles, and a link coupled to the anchor by  
the first pivot axle and to the leg by the second pivot axle and the anchor is positioned  
in a channel formed in the leg receiver to slide in the channel upon movement of the

leg between the raised position in which the leg is positioned in the channel and the fold-down position in which the leg is positioned outside of the channel.

5           5.       The bed rail of claim 4, wherein the anchor includes an anchor body and a pair of anchor ears extending from the anchor body and the first pivot axle extends through an anchor ear opening formed in each anchor ear and through a link opening formed in the link to allow the link to pivot relative to the anchor upon movement of the leg between the raised and fold-down positions.

10           6.       The bed rail of claim 5, wherein the channel includes a pair of grooves and the anchor includes a pair of tabs coupled to the anchor body and extending into the grooves to slide therein upon movement of the leg between the raised and fold-down positions.

15           7.       The bed rail of claim 4, wherein the leg includes a tube and an attachment, the attachment includes an attachment body positioned inside and coupled to the tube and a pair of attachment ears extending from the attachment body and positioned outside of the tube, and the second pivot axle extends through an attachment ear opening formed in each attachment ear and through an elongated slot formed in the link.

20           8.       The bed rail of claim 4, wherein the anchor includes an anchor body and a pair of anchor ears extending from the anchor body, the first pivot axle extends through an anchor ear opening formed in each anchor ear and through a link opening formed in the link, the leg includes a tube and an attachment, the attachment includes an attachment body positioned inside and coupled to the tube and a pair of attachment ears extending from the attachment body and positioned outside of the tube, and the second pivot axle extends through an attachment ear opening formed in each attachment ear and through an elongated slot formed in the link.

25           9.       The bed rail of claim 1, wherein the movement-controlling means includes a lock and a lock release, the lock is arranged to move between a locked position to lock the side rail in the raised position and an unlocked position to allow movement of the side rail to the fold-down position, and the lock release is arranged to move the lock from the locked position to the unlocked position.

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10. A bed rail comprising  
a side rail and  
a clamp including a fixed jaw adapted to be positioned under a  
mattress in a fixed position, a movable jaw coupled to the side rail and arranged to  
5 move toward the fixed jaw to cause clamping of the mattress to mount the side rail  
alongside the mattress and to move away from the fixed jaw to cause unclamping of  
the mattress, and a fold controller coupled to the fixed jaw and the movable jaw and  
arranged to control movement of the movable jaw relative to the fixed jaw to move  
the side rail relative to the fixed jaw between a raised position in which the side rail  
10 extends higher than the fixed jaw and a fold-down position in which the side rail  
extends lower than the fixed jaw.

11. The bed rail of claim 10, wherein the fold controller includes a  
leg coupled to the movable jaw and a leg receiver coupled to the fixed jaw and the leg  
is arranged to be received in the leg receiver upon movement of the leg to the raised  
15 position and is arranged to be removed from the leg receiver upon movement of the  
leg to the fold-down position.

12. The bed rail of claim 11, wherein the fold controller includes an  
articulated joint coupled to the leg and the leg receiver to facilitate movement of the  
leg between the raised and fold-down positions.

13. The bed rail of claim 12, wherein the leg receiver is formed to  
20 include a channel arranged to receive the leg upon movement of the leg from the fold-  
down position to the raised position and the articulated joint includes an anchor that is  
coupled to the leg and arranged to slide in the channel upon movement of the leg  
between the raised and fold-down positions and to engage an anchor stop included in  
25 the leg receiver when the leg assumes the fold-down position.

14. The bed rail of claim 13, wherein the anchor includes a body  
and a tab extending outwardly from the body, the tab is arranged to slide in a groove  
formed in the channel and is arranged to engage the anchor stop, and the body is  
arranged to slide against a rail included in the channel.

15. The bed rail of claim 13, wherein the articulated joint includes  
30 first and second pivots and a link coupled to the anchor by the first pivot and to the  
leg by the second pivot and the link is formed to include an elongated slot through  
which the second pivot extends for movement therein to allow movement of the leg

toward and away from the anchor upon movement of the leg between the raised and fold-down positions.

16. The bed rail of claim 15, wherein the anchor includes an anchor body and a pair of anchor ears extending from the anchor body, the first pivot  
5 includes a first pivot axle extending through an anchor ear opening formed in each anchor ear and through a link opening formed in the link, the leg includes a tube and an attachment, the attachment includes an attachment body positioned inside the tube and a pair of attachment ears extending from the attachment body and positioned  
10 outside of the tube, and the second pivot includes a second pivot axle extending through an attachment ear opening formed in each attachment ear and through the elongated slot.

17. The bed rail of claim 11, wherein the leg receiver includes an outer sleeve coupled to the fixed jaw and an inner sleeve coupled to and surrounded by the outer sleeve and the inner sleeve is formed to include a channel arranged to  
15 receive the leg upon insertion of the leg through an end opening formed in the inner sleeve.

18. The bed rail of claim 17, wherein the fold controller includes a lock including a locking pin and a spring positioned in an interior region formed in the leg and arranged to move the locking pin through a leg opening formed in the leg  
20 into an inner sleeve opening formed in the inner sleeve to lock the leg in the channel when the leg assumes the raised position.

19. The bed rail of claim 18, wherein the inner sleeve includes an inclined surface that is adjacent to the end opening and is arranged to retract the locking pin into the interior region upon movement of the leg into the channel.

20. The bed rail of claim 18, wherein the fold controller includes a lock release including a button extending through an outer sleeve opening formed in the outer sleeve for inward movement against the locking pin to retract the locking pin from the inner sleeve opening into the interior region to allow removal of the leg from the channel upon application of a release force to the button and the lock release  
30 includes a spring arranged to move the button outwardly upon removal of the release force from the button.

21. The bed rail of claim 10, wherein the fold controller includes a lock arranged to move between a locked position to lock the side rail in the raised

position and an unlocked position to allow movement of the side rail to the fold-down position.

22. The bed rail of claim 21, wherein the fold controller includes a lock release arranged to move the lock from the locked position to the unlocked position.

23. A bed rail comprising  
a side rail,  
a leg coupled to the side rail to support the side rail,  
a foot adapted to extend under a mattress in a fixed position, the foot  
including a socket, and

an articulated ankle joint coupled to the leg and the foot for movement of the leg relative to the foot to move the side rail relative to the foot between raised and fold-down positions when the foot extends under the mattress in the fixed position,

wherein the leg is arranged to be inserted into the socket to position the side rail in the raised position and to be removed from the socket to position the side rail in the fold-down position.

24. The bed rail of claim 23, wherein the socket is formed to include a channel arranged to receive the leg and the articulated ankle joint includes an anchor that is coupled to the leg and arranged to slide in the channel between a lower position when the leg is positioned inside the channel in the raised position and an upper position in which the anchor engages an anchor stop included in the socket when the leg is positioned outside the channel in the fold-down position.

25. The bed rail of claim 24, wherein the articulated ankle joint includes first and second pivot axles and a link coupled to the anchor by the first pivot axle and to the leg by the second pivot axle and the link is formed to include an elongated slot through which the second pivot axle extends for movement therein to allow movement of the leg toward the anchor during movement toward the raised position and to allow movement of the leg away from the anchor during movement toward the fold-down position.

26. The bed rail of claim 24, wherein the socket includes flexible fingers arranged to move away from one another to receive the anchor into the

channel and to hold the anchor in the channel when the anchor assumes the lower position.

27. The bed rail of claim 23, wherein the socket is formed to include a channel and the articulated ankle joint includes an anchor, first and second  
5 pivot axles, and a link coupled to the anchor by the first pivot axle and to the leg by the second pivot axle, and the anchor is positioned in the channel to slide therein upon movement of the leg between the raised and fold-down positions.

28. The bed rail of claim 27, wherein the anchor includes an anchor  
10 body and a pair of anchor ears extending from the anchor body and the first pivot axle extends through an anchor ear opening formed in each anchor ear and through a link opening formed in the link to allow the link to pivot relative to the anchor upon movement of the leg between the raised and fold-down positions.

29. The bed rail of claim 27, wherein the leg includes a tube and an  
15 attachment, the attachment includes an attachment body positioned inside and coupled to the tube and a pair of attachment ears extending from the attachment body and positioned outside of the tube, and the second pivot axle extends through an attachment ear opening formed in each attachment ear and through an elongated slot formed in the link.

30. The bed rail of claim 23, further comprising a lock and a lock  
20 release, the lock is coupled to the leg and arranged to assume a locked position to lock the leg in the socket, and the lock release is coupled to the socket and arranged to move the lock to an unlocked position to allow removal of the leg from the socket.

31. A bed rail comprising  
a side rail and  
25 a clamp coupled to the side rail and adapted to cause clamping of a mattress to mount the side rail alongside the mattress and to cause unclamping of the mattress, the clamp including a base adapted to extend under the mattress in a fixed position, the clamp being configured for foldable movement to move the side rail relative to the base between raised and fold-down positions when the base is  
30 positioned under the mattress in the fixed position.

32. The bed rail of claim 31, wherein the clamp includes a leg  
receiver, a leg arranged to be received in the leg receiver upon movement of the leg and the side rail to the raised position and to be removed from the leg receiver upon

movement of the leg and the side rail to the fold-down position, and an articulated joint coupled to the leg receiver and the leg to allow the leg and the side rail to flip over upon movement of the leg and the side rail between the raised and fold-down positions.

- 5                    33.     The bed rail of claim 31, wherein the clamp includes a releasable lock arranged to lock the leg in the raised position.